# **Title VIII**

The FY 2001 Interior Appropriations Bill provided funding for the USDA Forest Service Urban and Community Forestry (U&CF) Program in Title VIII (Land Conservation, Preservation and Infrastructure Improvement). Projects are selected based on the United States Census Bureau's Metropolitan

Statistical Area (MSA) and national U&CF Program Budget Allocation Criteria. MSA not only includes large urban core cities, but also rapidly MSAs will support the initiation of comprehensive urban forest management activities. Most activities are in progress and status reports are provided in this section.



# Region 5

### Hawaii

### **Grants**

VIII-01. University of Hawaii Botany Department, Weed Risk Assessment Project. The scoring of more than 200 urban forestry plants to determine invasive tendencies, using Australia's Weed Risk Assessment System, was completed. In five followup meetings in each county, green industry professionals discussed how the landscape industry, government agencies, and other stakeholders could work together to minimize the risk of introducing new invasive plants to Hawaii. A second round of scoring plants continues.

VIII-02. The Outdoor Circle's Tropical Urban Forestry Management Plan Project. The project is nearly complete. Completing the analysis of existing conditions and creating a final draft of the management plan are the remaining steps and will greatly enhance how Honolulu's city and county departments communicate with each other and the community about trees.

VIII-03. Honolulu Botanical Gardens, Urban Forestry Enhancement Project. The project has completed several key objectives:

- Field tested 10 native Hawaiian trees for use in Hawaii's urban forest.
- Demonstrated the suitability of native trees for the urban forest.
- Conducted public education on the native Hawaiian trees selected.
- Trained landscape volunteers to perpetuate the project.
- Developed an educational brochure about urban landscaping with native plants.
- Developed a model process of steps to determine tree suitability for urban landscapes.

VIII-04. County of Maui, County of Maui Urban Forestry Inventory. The county of Maui has completed the purchase, integration, and training on the inventory and the Geographic Information System. The system is being field tested on sites in the Wailuku area.

# 2002 Kaulunani Urban Forestry Awards

The Kaulunani awards recognize exemplary projects and activities of organizations, schools, government agencies, and individuals. The following five categories of awards were presented:

- Outstanding Urban Forestry Achievement Awards, cosponsored with Hawaiian Electric Company, Inc.
- Outstanding Urban Forestry Organization Award for an organization's dedication to arboriculture awareness and improving maintenance and health of trees throughout the State.
- Riccio Award of Excellence, which recognizes an individual's volunteer commitment to Hawaii's urban forest.
- Kaulunani Kauila Award, which recognizes the leadership and dedication of an arborist professional.
- Christine Snyder Award, which recognizes youthful, aggressive leadership in urban forestry.

### Workshops/Conference

"Native Plants in Public Places: Hawaii's Unique Biological Heritage." With a goal of expanding the pallet of native plants used in Hawaii's unique tropical landscape, this Kaulunani-funded workshop featured speakers who are experts in the design, selection, use, installation, maintenance, and propagation of local native plants.

Getting to the Roots II. Root Pruning, Rubber Sidewalks, and Underground Critters. The green industry was invited to participate in a 1-day training workshop that addressed the importance of roots to the overall health of a tree, and the new innovations in root pruning, rubber sidewalks, and underground critters.

Creating Green Environments: How Ordinances
Provide a Framework for Green Infrastructure. This
conference provided an overview of what it means to
create a sense of place in our Hawaii. By offering a
historical perspective of parks, as well as the local and
national "nuts and bolts" of ordinances, this conference
demonstrated the vital relationships between the
environment, the culture, and the people.

### Contact

Tresa Trueman-Madriaga, U&CF Coordinator Division of Forestry and Wildlife 1151 Punchbowl St., Rm. 325 Honolulu, HI 96813 808-672-3383 (phone) 808-672-6323 (fax) e-mail: ttm@hawaii.rr.com

# Region 8

# 2003 American Forests Summary Report

# **Project Name**

Ecosystem Analysis of Four Metro Areas in the Southern Region

### **Project Partners**

# Fayetteville, AR

Patti Erwin Arkansas Forestry Commission 2780 N. Garland Avenue Fayetteville, AR 72704 501-442-8627 (phone) e-mail: perwin@arkansasusa.com

### Atlanta. GA

Susan Reisch Georgia Forestry Commission 6835 James B. Rivers/Memorial Drive Stone Mountain, GA 30083 404-298-3935 (phone) e-mail: sreisch@gfc.state.ga.us

### New Orleans, LA

Tom Campbell Louisiana Department of Agriculture and Forestry 504-483-4795 e-mail:tom\_c@ldaf.state.la.us

### Roanoke, VA

Charlie Blankenship 5215 Sugarloaf Road S.W. Roanoke, VA 24018 540-774-6272 (phone) e-mail: cblank8144@aol.com

### **Abstract**

American Forests will work with project partners in Fayetteville, AR; Atlanta, GA; New Orleans, LA; and Roanoke, VA, on the analysis portion of their Title VIII projects. Depending on the scope of the project, American Forests will conduct a Landsat Imagery Analysis to determine tree canopy change over time. Another analysis using high-resolution imagery and site survey information will determine the ecological and economic value of the project's urban forest, including air quality benefits, stormwater runoff reduction, energy conservation, and carbon storage. Each partner will receive multiple copies of a report of the findings, a copy of CITYgreen and training, and press coverage.

### **Objectives Met**

For this time period: All CITYgreen trainings completed Fayetteville, April 10–11, 2002 Roanoke, April 16–17, 2002 New Orleans, July 31-August 1, 2002 Atlanta: We have digitized the three sites and entered information on the design of future trees to run a comparison between existing conditions and new design. We have the design for all three study sites. Jeff Luvall has provided us with data comparing ground temperatures with different tree canopy cover percentages. We used a regression analysis to determine what the temperatures would be for our three study sites under existing, revised planting, and growth modeling conditions. A 12-page report, Projected Environmental Benefits of Community Tree Planting, was completed in October 2002, with 500 copies provided for local distribution.

New Orleans: We have completed analysis on the high resolution imagery and found that the city has a 24-percent tree canopy cover, 33 percent impervious surface, 28 percent open space, and 12 percent water. We calculated the environmental benefits of the urban forest. The local partners will conduct a CITYgreen analysis using their aerial imagery once they have been trained. CITYgreen training was conducted in July 2003 and July 31 and August 1, 2002. An Urban Ecosystem Analysis report was completed for local distribution.

**Fayetteville**: We conducted a sub-pixel and full pixel analysis of the Landsat data and have conducted the analysis of the IKONOS satellite imagery. The Landsat analysis showed a small (less than 1 percent) decrease in overall tree cover for the two county regions, but identified hot spots of decline near the airport and Benton County. The City of Fayetteville showed an 18-percent decline in heavy tree canopy. Patti Erwin conducted analyses using aerial imagery of one sample site and the findings will be used in the report. A 12-page Urban Ecosystem Analysis report (500 copies) and a two-page color addendum on Aerial Imagery for Natural Resource Management were produced and printed for local distribution. The report was completed in September 2002 and a press conference was held in January 2003.

**Roanoke**: We have reviewed the findings of the analysis and have detailed the percentage tree cover by different land use areas and 10 local communities within the Roanoke area. The Urban Ecosystem Analysis report was completed and 500 copies printed for local distribution.

### Contact

Gary Moll, Vice President, Urban Forest Center, American ForestsP.O. Box 2000, Washington DC, 20013 202–955–4500, ext. 220 (phone), 202–955–4588 (fax) e-mail: gmoll@amfor.org

# Atlanta Metropolitan Area/Georgia

### **Project Name**

Georgia Model Urban Forest Demonstration Project

### **Project Partners**

Ginna Tiernan

DeKalb County, Department of Parks and Recreation 404–508–7631 (phone)

Kelly Jordan

Arabia Mountain Heritage Alliance, Davidson-Arabia Mountain Nature Preserve 404–522–8629 (phone)

Marcia Bansley, Executive Director Trees Atlanta 404–522–4097 (phone)

DeAnn Fordham FordhamPark Pride 404-817-6761 (phone)

Amy Macklin, Development Director Habitat for Humanity 404–223–5180, ext. 28 (phone)

### **Abstract**

The objective of the project is for the Georgia Model Urban Forest Demonstration Project to help community leaders understand the need to preserve, plant, and maintain trees and forests as an important resource.

The following three development types will be compared:

- Urban Core—Turner Field parking lot in the City of Atlanta.
- 2. Older Suburbs—A multiuse trail along Klondike Road from I-20 to Stonecrest Mall.
- 3. Newer Suburbs—Habitat for Humanity, Mount Zion Manor homes, City of Atlanta.

### **Objectives Met**

# Quarter 1

- · Signed contracts with partners.
- · Began site plans for Turner Field.
- · Began site plans for Klondike Road Trail.
- Began site plans for Habitat for Humanity site.
- · Began advertising.

### Quarter 2

- Completed preconstruction videographing at all sites.
- Completed initial temperature reading at Turner Field site.
- · Began excavation at Turner Field site.

### Quarter 3

 Completed tree planting and onsite tree care education at Habitat for Humanity site.

### Quarter 4

- Completed tree planting and videographing at Turner Field site.
- · Reviewed public relations materials.
- Obtained temperature information from Jeff Luvall (American Forests).

### **Quarter 5**

- Had conference call update with American Forests regarding site modeling.
- · Held partner meeting.
- Sought copies of Construction Development Guide for Habitat for Humanity.
- Conducted video interviews.

### Quarter 6

- Held partner meeting with Arabia Mountain landscape architect.
- Sought materials to complete video production; met to discuss video script.
- Held partner meeting to review brochure text and graphics and to discuss PR event.
- · Reviewed American Forests report.

### Quarter 7

- Edited American Forests report.
- Met with partner, Atlanta Habitat for Humanity on Educational Calendar for all homebuyers.
- · Reviewed revised proofs for brochure and CD ROM.

### **Objectives Not Yet Met**

· Planting site preparation at Stonecrest Mall.

### Contact

Susan Reisch 6835 James B. Rivers/Memorial Drive Stone Mountain, GA 30083 404-298—3935 (phone) 404-294—3591 (fax) e-mail: sreisch@gfc.state.ga.us http://www.gfc.state.ga.us

# Birmingham, Alabama

### **Project Name**

Metro Birmingham—Remote Sensing and Interpretations for Urban Forestry

### **Project Partners**

Trees for Alabama Storm Water Management Authority (SWMA), Inc. Department of Horticulture and Urban Forestry Cawaco Resource and Development Council, Inc. Southern Environmental Center at Birmingham College

### **Abstract**

The primary purpose of this project is to establish a baseline of information on the urban forest canopy and green space in Jefferson County, AL, and to communicate the state of the urban forest to the political leaders and the decisionmakers within the incorporated cities of the area.

This project will document current forest canopy and green space using IKONOS satellite imagery and use current models to determine the ecosystem value and the positive effect on air quality, energy use, and stormwater runoff.

A regional tree summit will be held to give an annual state-of-the-trees update. In addition, written reports will be given to each city within the geographic area of the study. This will provide information and evidence to local groups and civic leaders to formulate plans to protect, reforest, and improve the overall urban forest canopy in the area.

### **Objectives Met**

Satellite "cloud recovery" imagery was received and integrated into existing imagery to form a more "cloud free" view of the study area.

Preliminary vegetative analysis was performed using a combination of unsupervised and supervised

classification methods with ERDAS IMAGINE software. Five distinct classes were identified: impervious, semipervious, hardwood cover, pine cover, and unclassified areas (shadows, etc.). Initial results, reported by municipality, were calculated, posted on the SWMA Web site, and reported to several organizations including the following:

- 4-11-02, Southern Environmental Center Livable Cities Conference
- 4-11-02. Friends of Shades Creek
- 4-17-02, USDA Forest Service review
- 4-29-02, GLOBE (Taylor Steele from the Mcwane Center)
- 5-22-02, Report to Trees for Alabama Board
- 6-11-02, State Foresters Conference
- 8-14-02, Governor's Conference on GIS
- 10-3-02, Regional Tree Summit

An accuracy assessment was performed for the initial classification with 82 percent accuracy for tree delineation.

A refined classification was performed using a transformed normalized difference vegetative index combined with supervised and unsupervised classification to produce two distinct classes of treed and untried areas.

An accuracy assessment was performed for the second classification, and accuracy was improved to 91 percent.

FY 2001 leaf-off imagery was received and processed.

# **Objectives Not Yet Met**

Application of models Reports to cities

### Contact

Matt Brown, Programmer Database Storm Water Management Authority, Inc. 205–325–1440 (phone)

# Fairfax County Metro Area, Virginia

# **Project Name**

Mapping Extents and Nature of Forest and Water Resources in Northern Virginia

### **Abstract**

The primary objective of the proposal is to provide private and public stakeholders with highly accurate Geographic Information System (GIS) data that quantifies the historic and current extents and nature of Northern Virginia's forest, wetland, and water resources on an individual watershed basis.

Other objectives include the following:

- To provide analytical tools and data that will enable stakeholders to identify and communicate the effects of urbanization trends on existing forest, wetland, and water resources within the context of regional and local land-use planning processes.
- To foster dialog and collaboration among local stakeholders and encourage multijurisdictional efforts to accomplish the goals of the Chesapeake 2000 Agreement.
- To establish baseline data necessary for formulating individual watershed management plans.

# **Objectives Met**

- Partnered with Fairfax County GIS Office to coordinate use of GIS/GPS software and computer equipment.
- Acquired 1995 and 2000 10-meter SPOT satellite imagery (pro bono).
- Produced year 1995 and 2000 tree cover benchmark analysis for study area.
- Identified ground truthing areas needed for entire study area to establish initial database of reflective values.
- Met with Fairfax County Park Authority staff and Prince William County to devise data collection methodology.
- Finalized data collection methodology and generated needed forms and databases to record data.
- Completed training of Urban Forestry Division Staff, Park Authority Naturalist Staff, Huntley

- Meadows Park Volunteers, and Prince William County Arborist in data collection methodology.
- Completed data collection and GPS location of 165 of 210 data collection points.
- Worked with Fairfax County Department of Purchasing and Supply Management to develop sole source contract with DigitalGlobe Service, Inc., to purchase satellite imagery.
- Acquired 450 km2 (covers Eastern Fairfax County, Arlington County, and City Of Alexandria) of the total 2,106 km2 of needed 2.6-meter multispectral satellite imagery.
- Partnered with Virginia Tech forestry graduate student (working on Master's degree) to begin identifying known National Vegetation Classification Standards (NVCS) vegetation communities that are present in Northern Virginia.
- Began GIS analysis, correlating reflective values of satellite imagery to georeferenced field data in 450 km² of study area.
- Contracted with DigitalGlobe to acquire remaining 1,656 km2 of satellite imagery by summer/fall of FY 2004.

### **Objectives Not Yet Met**

- · Acquisition of 1990 SPOT 10-meter satellite imagery.
- · Production of the 1990 tree cover analysis for study area.
- Acquisition of 1,656 km2 of 2.6-meter multispectral satellite imagery of the total 2,106 km2 needed.
- Production of NVCS mapping for study area broken down into 67 major watersheds.
- Production of environmental and socioeconomic benefits report.

### Contact

Mike Knapp, Director of Urban Forester Fairfax County Department of Public Works and Environmental Services 12055 Government Center Parkway, Suite 518 Fairfax, VA 22035 703–324–1770 (phone) 703–803–7769 (fax) e-mail: michael.knapp@co.fairfax.va.us

# Fayetteville Area, Arkansas

### **Project Name**

Northwest Regional Airport Urban Ecosystem Analysis

# **Project Partners**

American Forests Gary Moll P.O. Box 2000 Washington, DC, 20013 202 -955 -4500 (phone) City of Fayetteville

Kim Hesse 113 W. Mountain Fayetteville, AR 72701 501 -575 -8308 (phone)

### **Abstract**

The objective of the project is to produce a working document for local governments and organizations involved in the planning for northwest Arkansas. The information in this document will identify existing watersheds and canopy cover in and around the airport and surrounding communities. A 3-D simulation of

images will depict the loss of forest cover, due to land changes, over the last 20 to 30 years. The analysis will also include the dollar value of the tree cover in terms of air and water quality and energy savings. Communities will be able to visualize how growth has affected their natural resources; they will have a better understanding of the benefits trees provide, and they will have guidelines for addressing future growth management issues in relationship to their natural resources.

# **Objectives Met**

Completed CITYgreen trainings Fayetteville April 10–11, 2002 Presentation of findings to local governments by American Forests.

### Contact

Patti Erwin 2780 North Garland Avenue Fayetteville, AR 72704 501 -442 -8627 (phone) 501 -442 -2117 (fax) e-mail: perwin@arkansasusa.com

# Greenville/Spartanburg Metropolitan Area, South Carolina

### **Project Name**

Assessment of Urban Forest Cover and Structure in the Greenville-Spartanburg Metropolitan Area: Implications and Opportunities for Local Policy Changes

# **Project Partners**

### **South Carolina Forestry Commission**

Liz Gilland 5500 Broad River Road Columbia, SC 29212 864 -896 -8864 (phone)

# **Pinnacle Consulting Group**

Dave Hargett Suite 301, 1 Augusta Street Greenville, SC 29601 864 -467 -0431, ext. 13 (phone)

### **Strom Thurmond Institute**

Jeff Allen Clemson University, Perimeter Road Clemson, SC 29634 864 -656 -0228 (phone)

### **Upstate Forever**

Brad Wyche P.O. Box 2308 Greenville, SC 29602 864 -250 -1027 (phone)

### **USDA Forest Service**

Dave Nowak 5 Moon Library, SUNY-CESF Syracuse, NY 13210 315 -448 -3212 (phone)

### **Abstract**

The Interstate 85 corridor in northwestern South Carolina has experienced explosive growth over the past 20 years. During that period, the rate of land conversion to urban uses has been estimated to be greater than 200 percent. This project will assess the urban forest resources of the Greenville-Spartanburg (GSP) urban growth corridor along Interstate 85. Within this corridor, the assessment will provide a base understanding of these resources and how they change over time. The 750-square mile study area

includes all key municipalities in the corridor, plus a window of 5 miles on either side of Interstate 85. The project will (1) describe and quantify the urban forest structure; (2) document changes in forest cover over time; (3) evaluate the effects of those changes; (4) establish baseline information and permanent inventory plots for future assessments: (5) use the results to inform and educate public policymakers, the private sector, and the public; and (6) be used to produce a strategy for mitigating past problems and conserving existing urban natural resources. The study area currently includes many urban forest fragments, including many sensitive components associated with critical riparian zones. Many of these forest remnants have significant potential for protection and enhancement through public green space programs, provided management programs are developed and implemented soon.

### **Objectives Met**

Orthorectified mosaics of the study area have been developed from the 1981, 1989, and 1999 aerial photographs. These have been used to "train" the Landsat images for the different coverages being analyzed. In the study area, 100 permanent plot sites were randomly selected according to the protocol developed by Nowak's research unit. Plot and tree data have been collected according to the Syracuse protocol. Data are being "cleaned up" for use in the UFORE model. One animated visual "fly-over" of a portion of the study area has been created to contrast 1981 to 1999 conditions. The fly-over and PowerPoint® presentations have been used to present information about the project to a southern regional urban forestry workshop, the South Carolina U&CF Conference, and local county officials.

### **Objectives Not Yet Met**

Data analysis, modeling, additional visualization, and Web-based products.

### Contact

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# Houston, Texas

# **Project Name**

Houston Green—Building Houston's Green Infrastructure

### **Project Partners**

# **USDA Forest Service, Northeastern Research Station**

David J. Nowak, Project Leader c/o SUNY ESF, 5 Moon Library Syracuse, NY 13210 315 -448 -3212 (phone) 315 -448 -3216 (fax) e-mail:dnowak@fs.fed.us

### **Houston Advanced Research Center**

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# **Texas Natural Resources and Conservation Commission**

Mark Estes, Atmospheric Scientist TNRCC Technical Analysis Division Austin, TX 787441; 512–239–6049 (phone) 512–239–1500 (fax) e-mail: mestes@tnrcc.state.tx.us

### **Houston Green Coalition**

Mickey Merritt, Regional Urban Forester Texas Forest Service, P.O. Box 691184 Houston, TX 77269 713 -688 -8931 (phone) 713 -688 -8947 (fax) e-mail: tfshou@swbell.net

### **Abstract**

The Houston Green project study area is the City of Houston and the surrounding eight-county metropolitan area. Digital cover maps will be produced and merged with field data collected within these areas to develop a detailed urban forest data set for geographic information systems (GIS). This data will be used to determine the effect of urban trees on air quality, to document this impact in a State of the Urban Forest report, and to develop new computers tools to help local leaders make urban forestry management decisions to improve the quality of life in the Houston area.

# **Objectives Met**

**6/29/01**: In preparation for field data collection, the Texas Forest Service (TFS) prepared a Request for Bid package to solicit bids for collecting field data on 300

fixed-radius plots in the eight-county region. The UFORE training manual was edited to conform to the needs of the study and was also available at the above Web site. Bids from contractors were due July 11, 2002, and field work was scheduled to commence by August 1, 2002.

**9/28/01**: Bids for data collection came in beyond the budget to complete the work, so no bid was awarded. TFS took on the role of plot location and a second bid package was distributed in January 2002, with data collection commencing in late March 2002. Study design was altered to better conform to the Forest Inventory and Analysis (FIA) program plot location arrangement, and the UFORE manual was edited accordingly.

**12/28/01**: TFS contracted with Texas A&M University's Spatial Sciences Lab (SSL) to assist with plot location fieldwork. Approximately 20 percent of the 348 plot locations were located and marked on the ground. Once all the plot locations were located, bids for the actual data collection work was solicited.

**3/30/02**: Texas A&M's SSL completed approximately 75 percent of the plot location work. TFS foresters located and collected ground cover data on plots with no trees to speed up the process. UFORE field manual was completed; contract for tree data collection work was to be awarded in the next quarter.

**6/29/02**: Texas A&M's SSL fulfilled its contract and located all the UFORE plots where data will be collected. UFORE field manual was revised to better conform to urban FIA data collection procedures, under the guidance of Dr. Nowak. Bids for field data collection due were to be received next quarter.

**9/28/02**: UFORE field manual was completed, a contractor chosen, and approximately 40 percent of field plot data were collected. Dr. Nowak began work on two GIS computer tools (species selector and planting site locator), and began photo-interpretation analysis of the region in preparation for air-quality modeling work. Future projection model to project forest structure and effects was completed.

12/30/02: Field data collection by contractor was completed at the end of November 2002. Burditt Associates located a total of 177 plots containing at least one tree and collected all pertinent data on trees, shrubs, buildings, and ground covers. In addition, TFS staff located another 157 plots with no trees, bringing the total number of UFORE plots to 334. Raw data was sent to Dr. Nowak for processing in the UFORE model. Outputs will be coordinated with modelers contracted by Texas Commission on Environmental Quality (formerly TNRCC) to allow air-quality modeling to move forward in the spring of 2003. Field Data Collection objective is now complete.

# **Objectives Not Yet Met**

All of the objectives, except for the Field Data Collection.

### **Contacts**

John Giedraitis, State Urban Forestry Coordinator Texas Forest Service 309 Tarrow Drive, Suite 364 College Station, TX 77840-7896 979 -458 -6650 (phone) 979 -458 -6655 (fax) e-mail: jpg@tfs.tamu.edu Pete Smith, State Urban Forestry Partnership Coordinator Texas Forest Service Tarrow Drive, Suite 364 College Station, TX 77840-7896 979 -458 -6650 (phone) 979 -458 -6655 (fax) e-mail: pds@tfs.tamu.edu

Mickey Merritt, Houston Urban Forestry Coordinator Texas Forest Service Tarrow Drive, Suite 364 College Station, TX 77840-7896 713 -688 -8931 (phone) 713 -688 -8947 (fax) e-mail: tfshou@swbell.net

# New Orleans, Louisiana

### **Project Name**

New Orleans Inner City Reforestation Project

### **Project Partners**

**Greater New Orleans Agricultural Coalition, Inc.** 

Harvey Reed, III, Chairman 504–347–3276 (phone)

# City of New Orleans Department of Parks and Parkways

Cynthia Sylvain-Lear, Director 504-286-2100 (phone)

# **Orleans Parish Criminal Sheriff's Office**

Charles C. Foti, Jr., Sheriff 504–827–8501 (phone)

Louisiana Department of Agriculture and Forestry

Bonnie Stine, Urban Forestry Program Director 225–925–4500 (phone)

### Booker T. Washington High School Agriscience Department and George Washington Carver High School

Floyd Jenkins, Agriscience Teacher 504–592–8583 (phone)

### **Abstract**

The project will consist of the following three major components:

 Conduct CITYgreen analysis of the Greater New Orleans area and use it as a tool to expand knowledge about the benefits of the urban tree canopy.

- 2. Develop tree-growing outstations at George Washington Carver High School and at Orleans Parish Sheriff's Department. High school students and work-release personnel will be educated to maintain tree-growing outstations.
- 3. Conduct demonstration tree plantings on up to three public properties in Orleans Parish, under the direction of the City of New Orleans Parks and Parkways Department. Students will participate in the development of the layout, materials list, and planting plan.

### **Objectives Met**

The CITYgreen project is complete. Training in the use Citygreen software has taken place for representatives of Jefferson, Orleans, and St. Bernard Parishes, as well as for project partners and educators. The summary report has been received and distributed.

# **Objectives Not Yet Met**

None of the other objectives has been completely met at this time, but all are progressing as planned.

### Contact

Tom Campbell, State Urban Forestry Partnership Coordinator

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# Roanoke Area, Virginia

### **Project Name**

Roanoke Area Urban Ecosystem Analysis

### **Project Partners**

Gary Moll, Vice President Urban Forest Center, American Forests P.O. Box 2000 Washington DC, 20013 202–955–4500, ext. 220 (phone) 202–955–4588 (fax) e-mail: gmoll@amfor.org

### **Abstract**

American Forests will work with project partners in Fayetteville, AR; Atlanta, GA; New Orleans, LA; and Roanoke, VA, on the analysis portion of their Title VIII projects. Depending on the scope of the project, American Forests will conduct a Landsat imagery analysis to determine tree canopy change over time. Another analysis using high-resolution imagery and site survey information will determine the ecological and economic value of the project's urban forest,

including air-quality benefits, stormwater runoff reduction, energy conservation, and carbon storage. Each partner will receive multiple copies of a report of the findings, a copy of CITYgreen and training, and press coverage.

### **Objectives Met**

The findings of the analysis have been reviewed, and they have detailed the percentage tree cover by different land use areas and 10 local communities within the Roanoke area. The Urban Ecosystem Analysis report was completed and 500 copies printed for local distribution.

# **Objectives Not Yet Met**

None, Project completed.

### Contact

Charlie Blankenship 5215 Sugarloaf Road S.W. Roanoke, VA 24018 540-774-6272 (phone) e-mail: cblank8144@aol.com



# Region 10

# Ancorage, Alaska

# **Title VIII Project**

The State of Alaska and the Municipality of Anchorage entered into a partnership to develop a manual, *Tree Guidelines for the Municipality of Anchorage*. Grant recipients worked with the Western Center for Urban Forest Research and Education to begin the fieldwork last summer. Research was to be completed to help

quantify benefits and costs of "green infrastructure" in order to increase the awareness and investment in urban and community forests. The project has been postponed until an updated street tree inventory can be completed for Anchorage.

# Northeastern Area

# Baltimore, Maryland

### **Project Name**

Baltimore Strategic Urban Forests Assessment

# Recipient

Maryland Department of Natural Resources Forest Service

### Abstract

This Title VIII project took concepts of the Maryland Department of Natural Resource (DNR) Strategic Forest Lands Assessment and applied them to an urban scale, defining the contribution that this important landscape makes to the greater watershed of the Chesapeake Bay. The Strategic Urban Forests Assessment in Baltimore is a partnership between the USDA Forest Service, Maryland DNR Forest Service, Baltimore City, the Parks and People Foundation, and other local organizations.

To initiate the process, leaf-on IKONOS Imagery [1 meter] satellite imagery) was obtained for the entire city of Baltimore. A vegetation mask was produced, providing for a high-resolution tree canopy/land cover analysis of the city. The city is in process of overlaying site-specific land-use information (parks, hiker-biker

trails, street tree corridors, etc.) to establish baseline tree cover and set targets for tree cover enhancement for these site types. Further, the city will overlay community statistical information with tree cover in each of 55 neighborhoods, enabling establishment of tree cover goals and other environmental indicators and measures for the Baltimore Neighborhood Indicators Alliance.

This effort will serve as a long-term planning template for the city and partners, beginning with Mayor O'Malley's Paint the Town Green tree-planting initiative in the fall 2002.

### Contact

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# Battle Creek, Michigan

# **Project Name**

Implementing Comprehensive Forest Management

# Recipient

Leila Arboretum Society

### **Abstract**

The Leila Arboretum, in partnership with the city of Battle Creek, MI, is using Title VIII funding to ensure full implementation of a comprehensive forestry management system. The funding will be used specifically to implement phase I of a management plan developed by the arboretum's Tree Advisory Council. Progress on this project has been significant, timely, and of a very high quality.

### **Objectives Met**

- A tree inventory for the city of Battle Creek was completed in March 2002. The Tree Advisory Council used the findings of the inventory to formulate a comprehensive management plan, which was completed in October 2002, with appropriate phase 1 actions identified.
- The Tree Advisory Council continues to work with Battle Creek to keep the city aware of the needs of the urban forest. In October 2002, the Tree Advisory Council presented both a comprehensive management plan and an overview of the state of the urban forest to the city commission.

- The Tree Advisory Council identified critical preventative maintenance practices as part of the management plan. In November 2002, the council distributed a request for proposals to complete these activities. Pruning and removal of trees in targeted areas will begin in 2003.
- The Tree Advisory Council has initiated Citizen
  Forester Training workshops for residents and
  volunteers training sessions have occurred in fall
  2001 and in both spring and fall 2002, with 40
  people having been trained.
- The city of Battle Creek has begun work to remove hazard trees identified in inventory data. The city has also initiated a replanting effort to replace trees along major thoroughfares. At this time, 32 volunteers had helped plant 31 trees.
- Recently, the Battle Creek Enquirer published information about the state of Battle Creek's urban forest. The article was picked up by the Associated Press, the Jackson Citizen Patriot, the Kalamazoo Gazette, several local television and radio stations, and at least one online source.

### Contact

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# **Boston, Massachusetts**

# **Project Name**

Natural Cities Project

# Recipient

Urban Ecology Institute, Boston College

### **Abstract**

Title VIII funding enabled the Urban Ecology Institute to develop and field-test methods for effective urban ecosystem research and restoration, leading to improvements in the Greater Boston Harbor ecosystem. The institute determined that the most cost-effective strategy for improving ecosystem health was restoration of forest cover. The program has produced the Ecological Resources Map and has field-tested the Rapid Ecological Assessment protocol for urban ecosystems. Site restoration plans are under way. Led by community partners, the program will design and test policy and advocacy tools for protecting and restoring these resources.

# **Objectives Met**

- Completed the Ecological Resources Map for the Greater Boston Harbor ecosystem.
- Developed a model field protocol, the Rapid Ecological Assessment, for protecting and restoring critical ecosystem resources in an urban area.
- Established criteria for ranking critical ecological resources in an urban area.
- Created a set of field-tested legal and policy tools for the protection and restoration of critical ecological resources in an urban area.
- Selected demonstration sites for protecting and restoring critical ecological resources in the Mystic River watershed of the Greater Boston Harbor ecosystem.
- Planned an annual research meeting on the state of ecosystem resources in the Greater Boston Harbor watershed region.

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# **Buffalo, New York**

### **Project Name**

**Urban Forestry Ecosystem Restoration** 

### Recipient

Cornell Cooperative Extension, Erie County

### **Abstract**

This Title VIII project provides communities and municipal governments in the Buffalo-Niagara metropolitan area with an introduction to the principles, benefits, and best management practices of urban forest ecosystem restoration (UFER). It includes an education campaign, technical assistance for common restoration problems, and a regional ecosystem analysis that will support urban forest planning, restoration, and management. Implementation involved expanding partnerships of local, State and Federal agencies; nonprofit organizations; and community members.

# **Objectives Met**

- Developed a child-oriented urban forestry display for the regional Earth Day celebration.
- Completed working group sessions to develop the "urban forestry ecosystem restoration" concepts and their relationship to a variety of urban audiences.

- · Selected sites for UFER best management practices.
- Conducted a flight in mid-September 2002 for aerial photographs to support CityGreen analysis.
- · Completed city of Buffalo tree inventory.
- Completed city of Buffalo green infrastructure and open space inventory.
- Coordinated development of a Master Tree Management Plan with city planning and forestry personnel.
- Helped develop a greening strategy to connect Olmsted and greenway resources to neighborhood business districts for both greening and marketing.
- Presented the UFER story at the Great Lakes
   Economic Development Conference held in Buffalo in September 2002.

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# Chicago, Illinois

# **Project Name**

Managing the City's New Green Infrastructure

### Recipient

City of Chicago Department of Planning and Development

### **Abstract**

With Forest Service Title VIII funding, the City of Chicago Department of Planning (CDP) has developed a database of existing green open spaces in the city that previously had not been adopted by management agencies or fully integrated into operational maintenance. The CDP is inventorying the city's new school campus parks, river edge, and community garden landscapes, as well as planned development sites. The Campus Park project, for example, removed more than 200 acres of asphalt from 80 public schools and replaced it with playgrounds, trees, and grass. The city had not previously placed these new green spaces into a tracking system.

This project has brought city land management agencies together in a united goal with the nonprofit community. The CDP is working in cooperation with the Chicago Bureau of Forestry, Chicago Public Schools, Chicago Park District, Chicago Botanic Garden, Metro Information Center, Morton Arboretum, NeighborSpace, and the Open Lands Project. Beyond conducting site inventories and inspections, this project included staff interviews, analysis, and development of a final management plan. On the 25 planned development sites, 985 trees were counted, including green ash, Austrian pine, honeylocust, and littleleaf linden, representing 32 percent of the trees inventoried so far.

Much of the Campus Park work is being completed through the use of aerial photos from existing schools (flyovers), which are then digitized to enable accurate representation of variables such as buildings, parking, playgrounds, and green space around buildings, parkways, and other spaces.

### **Objectives Met**

- The Planning Department has completed 4.4 miles of the 6.5 miles slated for inventory.
- Preliminary results suggest good maintenance with evidence of attempts to reintroduce native tree canopy.
- The Campus Park phase is progressing well, with approximately 375 acres of urban land data compiled.
- Approximately 67 of the 101 schools have been completed, with another 34 being at various stages of completion.

The following quote is from an April 2002 press release by Chicago's Mayor Daley.

"Thanks to our campus park program, we are tearing up the asphalt and replacing it with grass, trees, and shrubbery." Chicago Mayor Richard M. Daley

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# Grand Calumet Region, Illinois and Indiana

# **Project Name**

Open Space Planning in the Calumet Region

# Recipient

**Grand Calumet Task Force** 

### **Abstract**

This project engages underserved, low-income residential neighborhoods in a collaborative open space planning process. The Grand Calumet Task Force is a partnership between the city of East Chicago, Calumet Neighborhoods Community Garden, Kennedy Gardens, Christmas in April, Openlands Project, and The Trust for Public Land. The products include neighborhood open space plans for the targeted communities of South Deering in Chicago, IL, and Calumet in East Chicago, IN. Results will include demonstration green spaces that illustrate the use of native plants and of plantings that attract wildlife in an urban setting, as well as educational and outreach materials that can be used for public and school-based programming about urban nature, the urban forest, and urban biodiversity.

Meetings have been held in conjunction with monthly CAPS (community policing) meetings. In addition, the seniors at Trumbull Park Homes are participating in the development of a native flower garden on one site. Community interviews have been completed with the selection of 21 sites that will be included in the final

Open Space Plan. The task force has also begun research into ownership of and securing deeds for vacant lots.

### **Objectives Met**

- Five pilot sites have been chosen and a landscape plan for the first of those five is in the design phase.
- The draft of an Open Space Plan emphasizing the use of native plants and habitat for South Deering is complete.
- A model prairie garden has been created at the task force's regular meeting place at St. Kevin's Church.
- Vacant lot native-plant gardens have been approved and initial designs developed for 11 different sites.
- · New trees have been planted at parkway sites.

"We need the power of community to achieve success." Bowden Quinn, Executive Director, Grand Calumet Task Force

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# Madison, Wisconsin

### **Project Name**

Wisconsin's Urban Forests: Partnership in Action

### Recipient

**Urban Open Space Foundation** 

### **Abstract**

The Wisconsin's Urban Forest: Partnership in Action project has enabled the Urban Open Space Foundation (UOSF) to lead a new broad-based network of citizen activists and business leaders, public agency representatives, and resource managers in comprehensive resource planning efforts in each of Wisconsin's three largest metropolitan areas. The partnership is designed to create a strong and effective voice for the importance and relevance of urban open space in making Wisconsin communities vibrant and healthy—ecologically, economically, socially, and culturally. Currently, the Community Open Space Partnership has 38 organizational partners.

# **Objectives Met**

- The UOSF hired Katie Beilfuss to serve as the program manager to help develop and coordinate the Community Open Space Partnership. The partnership continues to meet monthly.
- A steering committee was formed and regional open space forums were held in the State's most populous regions: the Fox Valley-Green Bay area, south central Wisconsin, and southeastern Wisconsin. At these

- forums, participants worked together to discuss "green infrastructure" land-use issues and were encouraged to create continuous physical networks of natural areas rather than a collection of independent parcels. Based on the work of the forums, an advocacy and public outreach campaign will be implemented to promote green infrastructure.
- Using information from the forums, the partnership has begun developing a guidebook entitled,
   "Wisconsin's Green Infrastructure Reinvestment Plan." The plan identifies urban and urbanizing landscapes that currently or potentially form the foundation of green community-supporting infrastructure. The plan will provide recommendations for actions needed to protect and improve these properties so that the economic, biological, and social benefits to surrounding neighborhoods and downtowns can be maximized.
- The partnership developed the Great Lakes Virtual Resource Center (designed for Midwestern Great Lakes States) (http://www.ouropenspaces.org). The site helps connect open space enthusiasts with the people, tools, and funding necessary to support local urban forest goals.

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# Minneapolis-St. Paul, Minnesota

### **Project Name**

**Invasive Species Management Project** 

# Recipient

Minneapolis Park and Recreation Board

### **Abstract**

The Minneapolis Park and Recreation Board was awarded a Title VIII grant to assist with public education, survey, and removal of woody invasive species on selected public parklands and private properties in neighborhoods in Minneapolis and St. Paul. The project focuses efforts aimed at restoring the health of the Minneapolis-St. Paul urban forest by controlling woody invasive species. Specific project components include completing a survey of selected parklands for invasive species; using city, contract, and volunteer labor to remove invasive plants; developing dynamic partnerships among neighborhoods, organizations, and municipalities; providing opportunities for communitybased education related to invasive species management; and documenting the entire process for use by others. Progress and project success have been rapid and significant.

# **Objectives Met**

- The project completed four successful neighborhood training sessions for master gardeners and volunteers on proper survey techniques for buckthorn. It also took surveys that have been used to develop eradication and restoration plans for targeted areas in the Mississippi River corridor and in selected parks.
- The project has removed significant amounts of buckthorn on both public and private lands; specifically at the Roberts Bird Sanctuary (30-acre site at Lake Harriet), Swede Hollow Park, Highwood Nature Preserve, and the Crosby Farm Nature Park bluff top, where the land has been cleared of buckthorn.
- The University of Minnesota is studying buckthorn berry-invested mulch to determine appropriate uses.
- Neighborhood volunteers have worked together to remove buckthorn.
- A regional buckthorn conference was held in 2001, and the proceedings have been published in a series of newsletters and magazines.

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# **Newark and Wilmington, Delaware**

### **Project Name**

Urban Forest Management in Newark and Wilmington, DE

# Recipient

Delaware Center for Horticulture

### **Abstract**

The Delaware Center for Horticulture (DCH), in partnership with the Delaware Department of Agriculture (DDA) Forest Service and the cities of Wilmington and Newark, used Title VIII grant funds to conduct tree inventories and establish databases that will contribute to improved management of community trees and forests in the most populated area of the State.

### **Objectives Met**

The Davey Resource Group (DRG) completed the Wilmington inventory in June 2002. DRG developed a full inventory and suggested 5-year management plan, including a complete range of individual reports. The inventory is being housed on TreeKeeper Online. This Web-based system meshed well with the management needs of Wilmington's municipal structure. Many offices now have access to important tree data that could only have been guessed at previously. The Davey Resource Group provided training to DCH and DDA staffs, as well as to participants from Wilmington's Departments of Parks and Recreation and Public Works. Inventory data have been used to determine priority work areas. The city and DCH will periodically update the data.

ACRT completed the Newark inventory in the fall of 2002. As DRG had done with the Wilmington inventory, ACRT developed a full report with management objectives. Staff from the city, DCH, and DDA attended training for the software in December 2002. The City of Newark chose ACRT Tree Manager software that will be housed on site and at the DCH. This software was an advantage to Newark because of its compatibility with computer-aided design (CAD) data, widely used by departments within the city. The inventory documents important factors, such as individual tree health and species, that will help facilitate improved urban forest health, diversity, and habitat value.

Both inventories have provided databases necessary to plan maintenance work in city parks and along streets. They are providing information to prioritize hazard tree removals; identify testing needs for tree structure and health; guide the budgetary process for maintenance work, including cabling, health and disease treatments, and pruning; schedule tree-trimming cycles with the goal of reducing power outages; and communicate urban forestry needs to city councils, potential funders, and residents.

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# **New York, New York**

# **Project Name**

OASIS II: Urban Canopy Enhancements through Interactive Mapping

### Recipient

New York Public Interest Research Group

### **Abstract**

This Title VIII project provides a showcase for using a sophisticated but easy-to-use online mapping system as a platform to collect, analyze, and distribute new data about neighborhood trees and urban canopy in New York City (NYC) to a wide audience of decisionmakers, greening advocates, the media, and community residents. The Open Accessible Space Information System (OASIS) in New York was a groundbreaking proof-of-concept that was conceived and funded initially by the USDA Forest Service as an accessible information system to help enhance the stewardship of open space so these areas are linked, diverse, and sustainable. The award-winning Web site and mapping service http://www.oasisnyc.net—is the centerpiece of a coalition of more than 40 nonprofit organizations, private companies, government agencies, and academic institutions, including the city's Parks and Recreation Department, the NYC Environmental Justice Alliance, and the New York Restoration Project. Several of these organizations recognized the need to incorporate information about neighborhood trees and urban canopy through the OASIS Web site because no other organizations or agencies were developing such a system. The Urban Canopy Enhancements through Interactive Mapping project fills that gap.

### **Objectives Met**

Although delayed by the events of September 11, the project's field work and analysis component are now substantially complete, and the partner organizations are finishing the plan to disseminate the results via the OASIS mapping site. During spring 2001, New York Public Interest Research Group's (NYPIRG) Community Mapping Assistance Project (lead group for the OASIS Web site), Trees New York, and USDA Forest Service employee David Nowak worked together

to modify course materials to train citizen pruners to conduct field surveys of neighborhood trees in three communities in New York City. Environmental Systems Research Institute (ESRI) (software partner and technical assistance provider), the Council on the Environment of NYC (CENYC), and Trees New York have since trained several dozen citizen pruners to collect detailed tree information. Working throughout the summer 2002 in three Bronx, Manhattan, and Staten Island neighborhoods, the pruners collected information on more than 400 trees. The pruners used different survey instruments—handheld computers with ArcPad mapping software, printed surveys and maps, and spreadsheets—to compare and contrast the best methods of data collection.

The State University of New York's (SUNY's) School of Environmental Science and Forestry and the USDA Forest Service's Northeastern Research Station have analyzed the data to quantify the societal benefits of individual trees—calculating not only basic statistics such as diameter at breast height (DBH) and height and leaf area, but also the amounts of key air pollutants each tree removes per year (such as carbon monoxide, ozone, and particulate matter) and the dollar value of this natural filtration process. The individual tree data will then be included at the OASIS Web site as an additional Geographic Information System layer that can be accessed dynamically, enabling Web visitors to zoom to their neighborhood, click on a specific tree, and determine its environmental and economic benefits to the surrounding area.

Finally, the Title VIII partner groups will be developing a community manual describing their work, so that other organizations can undertake similar initiatives in other areas, and that the New York activities can be expanded citywide.

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# **Northern New Jersey**

### **Project Name**

Addressing Sprawl-Innovative Community Forestry Strategies

### Recipient

North Jersey Resource Conservation and Development

### **Abstract**

This project builds capacity among municipalities and professionals to manage woodland resources in critical suburbanizing communities. The impact of sprawl type development has had a profound effect on trees and forests in Northern New Jersey. North Jersey Resource Conservation and Development (RC&D) used interviews with key individuals to identify specific urban forestry issues that need to be addressed as part of the project's training and education and outreach. RC&D prepared maps for three pilot projects in municipalities, using a methodology that helps communities characterize, identify, assess, and prioritize community forestry resources. Workshops and public meetings have articulated multiple values of woodland conservation, best management practices, planning issues and options, and New Jersey community forestry law and plans. RC&D developed a draft handbook documenting the collected information and offering information, solutions, and references for municipalities and developers. A "lessons learned" document that evaluates the strengths and weaknesses of project process and tasks will enable future projects to benefit from this project's experience.

### **Objectives Met**

- Completed a review of local municipal master plans, land development ordinances, and community forestry plans related to woodland conservation and growth management issues. Generally, the review learned that communities did not adequately characterize, manage, or articulate their preservation objectives for their forest resources in their community master plans.
- Conducted a needs assessment through interviews with a wide variety of public officials and private

- developers. Summarized the results of the interviews in a report that described the level of awareness and identified needs of all constituent groups.
- Funded small projects that will improve the integration of woodland protection and management in the community. Those projects are currently under way and include a mandatory public outreach component.
- Held two countywide workshops on New Jersey community forestry law and community forestry plan development. The series focused on the basics of the New Jersey community forestry law and how to develop a community forestry plan pursuant to State requirements. More than 70 people from 12 communities in Hunterdon County attended these workshops.
- Conducted a workshop on tree conservation and protection. More than 40 local officials attended a workshop entitled "Building Greener Communities: Woodland Conservation through Creative Planning Techniques." The workshop covered why and how to identify, plan, and implement a successful community forestry program. Workshop participants toured development sites to see strategies for protecting forests during the development process.
- Completed the final draft of a handbook containing existing information on how to effectively develop and implement a community forestry program.
- Drafted forest maps to help towns inventory, assess, and prioritize their woodland resources. The maps characterize forest types using Rutgers University's Center for Remote Sensing and Spatial Analysis land-cover data. The draft maps included forest cover, municipal boundaries, and major roads. Also provided the municipalities with information on areas of forest loss or gain between 1985 and 1997.

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# Philadelphia, Pennsylvania

### **Project Name**

Philadelphia Regional Ecosystem Analysis

# Recipient

American Forests, Inc.

### **Partners**

Partners for this study include the Pennsylvania Bureau of Forestry, Pennsylvania Urban and Community Forestry Council, Delaware Valley Regional Planning Commission, Philadelphia Water Department, and the USDA Forest Service.

### **Abstract**

American Forests, Inc., has been assessing urban forests across the country with a process called the Regional Ecosystem Analysis. Results are used to enhance public understanding of the value and function of community trees and forests as they contribute positively to stormwater reduction, air quality, and energy conservation. Since 1996, American Forests has completed assessments in 21 metropolitan areas. With funding and other resources from the USDA Forest Service and local partners, American Forests performed an analysis of the Philadelphia region in 2002. The analysis had the following three components:

 Regional Analysis Using Landsat Imagery. Collected a 3-year sequence of low-resolution satellite imagery of the nine-county Philadelphia region and analyzed the information to classify and identify changes in tree canopy and other important land covers.

- 2. Regional Analysis Using IKONOS Imagery. Acquired high-resolution satellite imagery for three watersheds within the region and will use the information to refine the regional land cover analysis that Landsat provided.
- 3. Local Analysis Using Aerial Photography. Will analyze high-resolution digital aerial photography for selected sample sites to further classify land features (trees, grass, impervious surface). Will collect additional information about species, soil types, rainfall, and land use and input the data into American Forests' CITYgreen™ model to calculate stormwater, air quality, and energy benefits.

### **Objectives Met**

- Completed the urban forest trend analysis of Landsat imagery and ground truthing activities.
- Provided training on CITYgreen software for local partners.
- Completed the analysis of the three focus area watersheds. The draft report is in process.
- Completed field surveys of 10 sites for local analysis using ArcPad and hand-held computers.

Published study results and distributed it widely to agencies and organizations to enhance their understanding of the value and function of Philadelphia's urban forest.

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# Syracuse, New York

# **Project Name**

Tree Stewards Training

# Recipient

Cornell Cooperative Extension Service, Onandaga County

### **Abstract**

Through this Title VIII project, Syracuse municipal staff and volunteers were trained as community tree stewards to inventory, assess, and maintain community trees. These tree stewards will transfer their knowledge to their own neighborhoods to implement forest management plans, increase urban forest awareness, increase resource health, and develop local tree commissions. The volunteers participated in projects in county and city parks to plant, prune, and maintain trees.

### **Objectives Met**

 Visited 14 county, State, and city parks to determine maintenance needs that volunteers could work on, including inventory, master plan, planting, mulching, and pruning.

- Developed two 6-hour workshops for municipal staff on tree inventory and hazard tree identification.
- Completed a park inventory with community volunteers using digital recorders. Participants assessed a hazardous tree, observed its being taken down, and reassessed it once it was cut apart.
- Provided four 2-hour and one 8-hour Saturday evening training sessions to 42 volunteers.
- Produced a 60-page tree resource manual and other resource material for participants.
- Project statistics: 25 volunteers spent 216 volunteer hours pruning 334 trees and mulching 274 trees in 7 parks.

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